TCAP Achievement, Grade 8, Mathematics
Criterion Referenced Test (CRT) Reporting Categories with State Performance Indicators (SPI)

Number and Operations	
SPI#	State Performance Indicator
8.1.1	identify the opposite and the reciprocal of a rational number
8.1.2	compare rational numbers using the appropriate symbol (<, >, =)
8.1.3	use ratios and proportions to represent real-world situations (i.e., scale drawings, probability)
8.1.4	determine the approximate locations of rational numbers on a number line
8.1.5	determine the square roots of perfect squares (< 169)
8.1.7	compute efficiently and accurately with whole numbers, fractions, decimals, and percents
8.1.8	use estimation strategies to select a reasonable solution to a real-world problem involving computing with rational numbers
8.1.10	use exponential, scientific, and calculator notation to represent large numbers in real-world situations
8.1.11	apply order of operations in computing with rational numbers using no more than two parentheses and exponents 1 and 2
Algebraic Thinking	
SPI#	State Performance Indicator
8.2.1	generalize a variety of patterns with symbolic rules
8.2.2	evaluate a first-degree algebraic expression given values for two or more variables
8.2.3	represent situations and solve real-world problems using symbolic algebra
8.2.5	generate equivalent forms for simple algebraic expressions
8.2.6	solve one- and two-step linear equations involving integers
8.2.7	apply given formulas to solve real-world problems
8.2.9	formulate multi-step equations that represent relationships and real-world situations
8.2.10	solve one-step linear inequalities
Graphs and Graphing	
SPI#	State Performance Indicator
8.2.4	connect symbolic expressions and graphs of lines
8.2.8	interpret graphs which represent rates of change
8.2.11	connect the appropriate graph to a linear equation
8.3.2	use ordered pairs to describe given points in a coordinate system
8.5.5	make conjectures and predictions based on data
Real World Problem Solving	
SPI#	State Performance Indicator
8.1.6	work flexibly with fractions, decimals, and percents to solve one- and two-step word problems
8.1.9	calculate rates involving cost per unit to determine the best buy
8.3.7	apply spatial reasoning and visualization to solve real-world problems
8.3.8	apply geometric ideas and relationships in areas outside the mathematics classroom (i.e., art, science, everyday life)
8.4.5	solve real-world problems involving rate/time/distance (i.e., d = rt)
8.4.8	solve problems involving scale factors using ratios and proportions
Data Analysis and Probability	
SPI#	State Performance Indicator
8.5.1	identify an appropriate sample to test a given hypothesis
8.5.2	interpret appropriate graphical representations of data (i.e.., histograms, box plots, scatterplots)
8.5.3	determine the mean of a given set of real-world data
8.5.4	connect data sets and their graphical representations (i.e., histograms, stem-and-leaf plots, box plots, scatterplots)
8.5.6	connect the symbolic representation of a probability to an experiment
8.5.7	determine the median of a given set of real-world data (even number of data)
8.5.8	recognize misleading presentations of data
Measurement	
SPI#	State Performance Indicator
8.4.1	select units of appropriate size and type to measure angles, perimeter, area, surface area, and volume
8.4.2	convert from one unit to another within the same system
8.4.3	estimate length, perimeter, circumference, area, and volume using a variety of strategies
8.4.4	apply formulas to find the area of triangles, parallelograms, and trapezoids
8.4.6	apply formulas to find the circumference and area of circles

SPI# -- Grade Level . Content Standard Number . Performance Indicator Number

Please refer questions about this list to the Tennessee Department of Education, Evaluation and Assessment. 10/28/03

8.4.7	estimate or find the area of irregular and complex shapes
8.4.9	solve real-world problems using the Pythagorean Theorem (no radicals)
Geometry	
SPI#	State Performance Indicator
8.3.1	classify types of two- and three-dimensional geometric figures using their defining properties
8.3.3	identify relationships among angles (i.e., complementary, supplementary, interior, exterior, vertical, corresponding)
8.3.4	recognize similar geometric figures
8.3.5	determine the measure of an angle of a triangle given the measures of the other two angles
8.3.6	apply relationships among angles and side lengths of similar geometric figures
8.3.9	solve problems using angle relationships (i.e., complementary, supplementary, interior, exterior, vertical, corresponding)